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excitatory amino acids

Endogenous amino acids released by neurons as excitatory neurotransmitters. Glutamic acid is the most common excitatory neurotransmitter in the brain. Aspartic acid has been regarded as an excitatory transmitter for many years, but the extent of its role as a transmitter is unclear.

(12 Dec 1998)

Previous: excitatory amino acid agents, excitatory amino acid agonists, excitatory amino acid antagonists

Next: excitatory junction potential, excitatory postsynaptic potential

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UKU NEUROSCIENCE PUBLICATIONS

Pitkänen A, Matilainen R, Halonen T, Kutvonen R,
Hartikainen P, Riekkinen P.

Inhibitory and excitatory amino acids in cerebrospinal
fluid of chronic epileptic patients.

J Neural Transm 1989;76:221-230

Abstract

We studied the levels of excitatory and inhibitory amino acids in the cerebrospinal fluid (CSF) of 28 epileptic patients (24 with partial type seizures, 4 with primary generalized seizures) and 12 controls. The levels of aspartate were 63% (p less than 0.01), glutamine 129% (p less than 0.001), and homocarnosine 127% (p less than 0.005) that of controls. The concentrations of glutamate, asparagine, total GABA, free GABA, taurine, and glycine did not differ between epileptic patients and controls. Patients with partial epilepsy had a pattern of amino acids in CSF similar to that in patients with primary generalized seizures. In the present study we did not observe increased excitation or decreased inhibition in the seizure-active brains of epileptics, as far as the CSF levels of amino acids reflect their levels in the brain.
